

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

NEPTUNE TECHNOLOGIES &
BIORESSOURCES, INC., and
L'UNIVERSITÉ DE SHERBROOKE,

Plaintiffs,

v.

AKER BIOMARINE ASA, AKER
BIOMARINE ANTARCTIC AS,
JEDWARDS INTERNATIONAL, INC., and
VIRGIN ANTARCTIC LLC,

Defendants.

Case No. 1:09-cv-11946-MLW

AKER BIOMARINE ANTARCTIC AS,
JEDWARDS INTERNATIONAL, INC., and
VIRGIN ANTARCTIC LLC,

Counterclaim Plaintiffs,

v.

NEPTUNE TECHNOLOGIES &
BIORESSOURCES, INC., and
L'UNIVERSITÉ DE SHERBROOKE,

Counterclaim Defendants.

**AKBM ANTARCTIC'S REPLY MEMORANDUM IN SUPPORT OF ITS RENEWED
MOTION FOR SUMMARY JUDGMENT OF NON-INFRINGEMENT**

The manufacture of Superba™ Krill Oil does not involve, and never has involved, the use of acetone or a ketone solvent. Every single piece of actual evidence in this case confirms this fact. Since all of the claims of the '299 patent require the use of acetone or a ketone solvent as an extraction solvent, Defendants Aker BioMarine ASA, Aker BioMarine Antarctic AS, Jedwards International, Inc., and Virgin Antarctic LLC (collectively "AKBM Antarctic") are not infringing, and have never infringed, the '299 patent. Plaintiffs Neptune Technologies & Bioressources, Inc. and L'Uniterstité de Sherbrooke (collectively "Neptune") are unable to cite a single fact in this case that shows otherwise. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The direct evidence in this case remains undisputed and shows that neither acetone nor a ketone solvent is used in AKBM Antarctic's processes. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Accordingly, AKBM Antarctic is entitled to summary judgment of non-infringement for all asserted claims.

ARGUMENT

AKBM Antarctic's extraction processes do not infringe any claim of the '299 patent. As set forth in AKBM Antarctic's opening brief, all of the direct evidence in this case proves that the Valencia Process, the Avignon Process, and the process used to make AKBM Antarctic krill meal and Asta TG Oil, all lack the use of acetone or a ketone solvent. Furthermore, AKBM Antarctic pointed to Neptune's inability to show that any AKBM Antarctic process extracted a

“total lipid fraction” under any proper construction of the term. Neptune has no single piece of direct evidence that it can cite to show the existence of a genuine issue of material fact. Instead, Neptune tries to mislead and confuse. Its arguments, while all baseless, differ slightly by process. In an attempt to be as clear as possible, we address here each process separately. Because Neptune blurs its reliance on tests for acetone, we address those together.

I. THE UNDISPUTED EVIDENCE COMPELS A RULING THAT THE ACCUSED PROCESSES DO NOT USE ACETONE OR A KETONE SOLVENT

A. The Direct Evidence All Shows No Use Of Acetone Or A Ketone Solvent

1. The Valencia Process does not involve the use of acetone or a ketone solvent

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Neptune has not, and cannot, cite a single process document showing the use of any extraction solvent other than ethanol in Valencia. *See* D.E. 151 (Defs.’ L.R. 56.1 Statement) at 17. Indeed, Neptune’s expert and counsel have confirmed that all of the process documents produced in this case reflect the use of absolute ethanol, and only absolute ethanol, as the extraction solvent used in the Valencia Process. *See* D.E. 154 (Shiels Decl. in Supp. of Renewed Mot. for Summ. J.), Ex. 4 (Moore Dep. Tr.) at 84:15–86:1. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] And the testimony of AKBM Antarctic’s expert, Dr. Daniel Raben, who witnessed the Valencia process first-hand, provides additional direct

evidence proving this central fact. *See* D.E. 154 (Shiels Decl. in Supp. of Renewed Mot. for Summ. J.), Ex. 4 (Raben Dep. Tr.) at 63:16-64:12.

Every claim of the '299 patent explicitly requires the use of either acetone or a ketone solvent to extract a total lipid fraction from marine or aquatic material. Therefore, all of the direct evidence of record relating to the Valencia Process shows that Valencia Process does not infringe a single claim of the '299 patent.¹

2. The Valencia Process does not involve the use of acetone or a ketone solvent.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

All of the Standard Operating Procedure ("SOP") documents and all of the testimony given by AKBM Antarctic employees in this case confirm that acetone has never been used in the Avignon Process, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

¹ The fact that AKBM Antarctic has not tested Superba™ Krill Oil for acetone is irrelevant, despite Neptune's strained arguments to the contrary. AKBM Antarctic has produced a mountain of direct evidence detailing the precise procedures followed in the various steps of Superba™ Krill Oil production, which even Neptune's own expert presumed to be accurate. D.E. 152 (Mem. in Supp. of Renewed Mot. for Summ. J.), at 8–9. AKBM Antarctic is under no obligation to follow Neptune's lead and waste time and money on tests that do not relate to the performance of the claimed processes.

The uncontroverted direct evidence of record relating to the Avignon Process shows that the process did not use either acetone or a ketone solvent to extract a total lipid fraction from marine or aquatic material and, therefore, does not infringe a single claim of the '299 patent.

3. The on-ship process used to produce AKBM Antarctic krill meal and Asta TG Oil does not involve the use of acetone or a ketone solvent.

The direct, un rebutted evidence is clear:

no acetone or ketone solvent has ever been used in the mealing process.

Neptune has not cited a single piece of evidence suggesting that the process used to create AKBM Antarctic krill meal and Asta TG Oil uses acetone or a ketone solvent.

B. Neptune’s Reliance on Erroneous And Baseless Testing Cannot Defeat Summary Judgment.

Neptune’s attorney argument that the supposed—and, as discussed below, erroneous—presence of acetone overcomes the direct evidence in this case fails as a matter of law. [REDACTED]

[illegible]

³ Neptune's suggestion that AKBM Antarctic's failure to depose Dr. Das is somehow relevant falls flat as well. First, AKBM Antarctic asked to depose Dr. Das and Neptune never offered a deposition date. Shields Decl., Ex. D (10/5/2010 Das Dep. Notice). [REDACTED]

[illegible]

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[illegible]

[illegible]

[REDACTED] accurate quantification by GC-FID

requires the use of an accurate standard concentration curve, generated by:

- a) using at least three data points;
- b) using data points that were measured at least in triplicate;
- c) using data points that that fall both above and below the test value being quantified; and
- d) using data points that were in the same order of magnitude as the test value being quantified to assure that quantification took place at the linear range of the curve.

[illegible]

[REDACTED]

[illegible]

¹⁰ This evidence also undermines Neptune's argument that acetone from krill would have evaporated during the evaporation of ethanol during AKBM Antarctic's extraction process. Neptune uses heat to remove acetone from its krill oil, yet MEK, which is not used in Neptune's manufacturing process, is still found in Neptune's final product. *See* Shields Decl., Ex G (Neptune 30(b)(6) (Sampalis) Dep. Tr.) at 55:18–56:5.

[illegible]

¹¹ Neptune has made no argument that the Avignon Process using 99% ethanol / 1% MEK literally infringes claim 13.

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II. NEPTUNE HAS NOT ESTABLISHED ANY GENUINE ISSUE OF MATERIAL FACT SHOWING THAT ANY ACCUSED PROCESS EXTRACTS A TOTAL LIPID FRACTION

A. The Applicants for the '299 patent expressly defined the term “total lipid” during prosecution

In its opening brief, AKBM Antarctic established that the '299 patent applicants expressly defined the term “total lipid fraction” in order to overcome a rejection by the examiner. Specifically, it is undisputed that the applicants stated that:

Within its generally recognized meaning and within the meaning of that which is recited by the claims, the term “lipid” refers to naturally occurring substances soluble in organic solvents, but insoluble in water. The diverse groups of substances encompassed by this definition can be divided into two broad classes: the acyl lipids and the terpenoids (minor components). The acyl lipids may then be subdivided into further subclasses: neutral acyl lipids (glycerides, free fatty acids and cholesterol esters), and polar lipids including glycerophospholipids, glyceroglycolipids and sphingolipids. Terpenoids are comprised of two subclasses of minor components: the sterols and the chlorophylls and carotenoids. Carotenoids constitute a very minor constituent of lipids in marine animals. The Examiner is referred to Table 17 on page 29 of the present application providing the content in astaxanthin and canthaxanthin of fractions obtained and to page 10, lines 26 to 31 where it is indicated that the content of astaxanthin is about 75-124µg/g and the content of canthaxanthin is about 250-700µg/g. ***It is apparent throughout the present application that the term “total lipid” as used therein is meant to encompass all these various types of lipids and that the method of the present invention is able to extract all these various types of lipids.***

See D.E. 164 (Pls.' L.R. 56.1 Statement) at 10. Neptune, realizing that the words that the applicants used to secure the '299 patent were now undermining its infringement case, attempts to distance itself from the applicant's definition by arguing that the definition only serves as a list of lipids that might be in a total lipid fraction, and, at best, only lists “classes” of lipids required to be in a total lipid fraction—polar lipids, neutral lipids, and caretonoids. But Neptune's argument ignores the fact that applicant distinguished the prior art by arguing that the prior art

methods failed to extract all of the very specific types of lipids listed in applicant's stated definition. Specifically applicant's argued:

- "None of the cited references . . . disclose or suggest that acetone can efficiently extract *glycerides, glycerophospholipids, and sphingolipids* from marine animals"
- "It is respectfully submitted that JP 3600035057A, Collin and CA 2,155,571 do not describe the use of acetone or ethanol for extracting "total lipids" *within the meaning of the present application* but to extract only a *small fraction of total lipids*, namely *caretonoids* for JP 3600035057A and Collin, and *polyunsaturated fatty acids* for CA 2,155,571"
- "Notably, the prior art teaches away from using acetone to extract *glycerophospholipids, sphingolipids, and glycerides*."

Thus, applicants' arguments relied upon the failure of the prior art methods to extract all of the specific types of lipids enumerated in applicants' definition of "total lipid fraction." Because the applicants expressly defined "total lipids" in order to overcome a rejection and distinguish the prior art, this court should adopt AKBM Antarctic's definition of "total lipid fraction," which is merely a reproduction of the very language used by applicants. *See Microsoft Corp.*, 357 F.3d at 1349 (holding that statements made to examiner to overcome a rejection during prosecution of the asserted patents limited the scope of the patent claims); *Vitrionics Corp. v. Conceptronic, Inc.* 90 F.3d 1576, 1582 (Fed. Cir. 1996) (to be his own lexicographer, a patentee must use a "special definition of the term [that] is clearly stated in the patent specification *or file history*) (emphasis added).¹⁴

B. Neptune has failed to introduce evidence that the accused processes extract a "total lipid fraction" under any definition

Neptune has not presented any evidence that the accused processes extract a "total lipid fraction" under either AKBM Antarctic's construction, or Neptune's own construction.¹⁵ Under

¹⁴ Neptune's argument that Plaintiff is attempting to limit the term to the example in the patent is inaccurate. AKBM Antarctic merely cites to the same passages and test results cited by the applicants in support of their own definition. Accordingly, the specification also supports AKBM Antarctic's construction.

¹⁵

AKBM Antarctic's construction, Neptune has produced no evidence in response to show that Superba™ Krill Oil contains any amount of canthaxanthin, sphingolipids, or glyceroglycolipids, as pointed out in AKBM Antarctic's briefing. D.E. 152 (Mem. in Supp. of Renewed Mot. for Summ. J.) at 28. Under Neptune's own construction, one would first need to determine which types of lipids were in the source material, and then determine that all of those lipid types were in the extracted oil. D.E. 154 (Shiels Decl. in Supp. of Renewed Mot. for Summ. J.), Ex. 13 (Neptune 30(b)(6) (Sampalis) Dep. Tr.) at 48:2–21; *id.*, Ex. 4 (11/9/10 Moore Dep. Tr.) at 58:3–19. Merely pointing to the presence of general categories of lipids is insufficient. But Neptune has not produced any such testing, despite having had samples of both Superba™ Krill Oil and AKBM Antarctic krill meal in its possession since July 2010.

Because Neptune has failed to present any evidence showing that the accused processes result in the extraction of a "total lipid fraction" under either proposed construction, they have failed to meet their burden and AKBM Antarctic is entitled to summary judgment of non-infringement for all of the asserted claims. *Febus-Rodriguez v. Betancourt-Lebron*, 14 F.3d 87, 91 (1st Cir. 1994).

CONCLUSION

For the foregoing reasons and those set forth in AKBM Antarctic's Renewed Motion for Summary Judgment of Non-Infringement and Memorandum in Support, AKBM Antarctic respectfully submits that this Court should enter summary judgment of non-infringement.

Dated: January 21, 2011

Respectfully submitted,

/s/ Matthew J. Shiels

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CERTIFICATE OF SERVICE

I hereby certify that on January 21, 2011, a true and correct copy of the foregoing **AKBM ANTARCTIC'S REPLY MEMORANDUM IN SUPPORT OF ITS RENEWED MOTION FOR SUMMARY JUDGMENT OF NON-INFRINGEMENT**, filed through the ECF system, will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as nonregistered participants on January 21, 2011.

/s/ Matthew J. Shiels